

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 581
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Masi Labs
ANALYST: Charel Rex
NO DISCHARGE INDICATOR:

| PARAMETER | pH | Ammonia (NH3) In Sludge | Nitrogen Kjeldahl, Total In Sludge | Phosphorus, Total In Sludge | Potassium In Sludge | Arsenic, Total In Sludge | Cadmium, Total In Sludge |
|---|--|----------------------------|--|--|------------------------|--|-----------------------------|
| PARAMETER CODE | 00400 | 00611 | 00627 | 00668 | 00938 | 01003 | 01028 |
| UNITS | S.U. | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| FREQUENCY | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month |
| SAMPLING TYPE | Composite | Composite | Composite | Composite | Composite | Composite | Composite |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | | | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | 7.740 | 1150 | 12500 | 27700 | 10200 | 6 | AA5.0 |
| 2021-11-09 | | | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | | | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | | | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | | | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 7.74 | 1150.0 | 12500.0 | 27700.0 | 10200.0 | 6.0 | 0.0 |
| Maximum | 7.74 | 1150.0 | 12500.0 | 27700.0 | 10200.0 | 6.0 | 0.0 |
| Average | | 1150 | 12500 | 27700 | 10200 | 6 | 0 |
| Count | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time | |
| | | | | | | Certification Version Date 2021-12-20 11:12 | |
| Jeffrey Williamson | | | | | | | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 581
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Masi Labs
ANALYST: Charel Rex
NO DISCHARGE INDICATOR:

| PARAMETER | Copper, Total In Sludge | Lead, Total In Sludge | Nickel, Total In Sludge | Zinc, Total In Sludge | Selenium, Total In Sludge | Sludge Fee Weight | Sludge Weight |
|---|--|-----------------------|-------------------------|-----------------------|--|-------------------|--|
| PARAMETER CODE | 01043 | 01052 | 01068 | 01093 | 01148 | 51129 | 70316 |
| UNITS | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | dry tons | Dry Tons |
| FREQUENCY | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month |
| SAMPLING TYPE | Composite | Composite | Composite | Composite | Composite | Total | Total |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | | | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | 71 | AA5.0 | 15 | 178 | AA5.0 | AA5.0 | AA5.0 |
| 2021-11-09 | | | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | | | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | | | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | | | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 71.0 | 0.0 | 15.0 | 178.0 | 0.0 | 0.0 | 0.0 |
| Maximum | 71.0 | 0.0 | 15.0 | 178.0 | 0.0 | 0.0 | 0.0 |
| Average | 71 | 0 | 15 | 178 | 0 | 0 | 0 |
| Count | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time |
| Jeffrey Williamson | | | | | | | Certification Version Date 2021-12-20 11:12 |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 581
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Masi Labs
ANALYST: Charel Rex
NO DISCHARGE INDICATOR:

| PARAMETER | Mercury, Total In Sludge | Molybdenum In Sludge | | | | | |
|--|--|-------------------------|--|---|--|---|--|
| PARAMETER CODE | 71921 | 78465 | | | | | |
| UNITS | mg/kg | mg/kg | | | | | |
| FREQUENCY | 1/Month | 1/Month | | | | | |
| SAMPLING TYPE | Composite | Composite | | | | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | | | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | .17 | 7 | | | | | |
| 2021-11-09 | | | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | | | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | | | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | | | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 0.17 | 7.0 | | | | | |
| Maximum | 0.17 | 7.0 | | | | | |
| Average | 0.17 | 7 | | | | | |
| Count | 1 | 1 | | | | | |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time | |
| Jeffrey Williamson | | | | | | Certification Version Date 2021-12-20 11:12 | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 582
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB:
ANALYST:
NO DISCHARGE INDICATOR: AL

| PARAMETER | pH | Ammonia (NH3) In Sludge | Nitrogen Kjeldahl, Total In Sludge | Phosphorus, Total In Sludge | Potassium In Sludge | Arsenic, Total In Sludge | Cadmium, Total In Sludge |
|--|--|----------------------------|---|--------------------------------|---|-----------------------------|-----------------------------|
| PARAMETER CODE | 00400 | 00611 | 00627 | 00668 | 00938 | 01003 | 01028 |
| UNITS | S.U. | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg |
| FREQUENCY | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month |
| SAMPLING TYPE | Composite | Composite | Composite | Composite | Composite | Composite | Composite |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | | | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | | | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | | | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | | | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | | | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | | | | | | | |
| Maximum | | | | | | | |
| Average | | | | | | | |
| Count | | | | | | | |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time | | |
| Jeffrey Williamson | | | | | Certification Version Date 2021-12-20 11:12 | | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 582
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB:
ANALYST:
NO DISCHARGE INDICATOR: AL

| PARAMETER | Copper, Total In Sludge | Lead, Total In Sludge | Nickel, Total In Sludge | Zinc, Total In Sludge | Selenium, Total In Sludge | Sludge Fee Weight | Sludge Weight |
|--|--|-----------------------|-------------------------|-----------------------|---|-------------------|---|
| PARAMETER CODE | 01043 | 01052 | 01068 | 01093 | 01148 | 51129 | 70316 |
| UNITS | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | dry tons | Dry Tons |
| FREQUENCY | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month | 1/Month |
| SAMPLING TYPE | Composite | Composite | Composite | Composite | Composite | Total | Total |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | | | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | | | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | | | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | | | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | | | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | | | | | | | |
| Maximum | | | | | | | |
| Average | | | | | | | |
| Count | | | | | | | |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time |
| Jeffrey Williamson | | | | | | | Certification Version Date 2021-12-20 11:12 |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 582
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB:
ANALYST:
NO DISCHARGE INDICATOR: AL

| PARAMETER | Mercury, Total In Sludge | Molybdenum In Sludge | | | | | |
|--|--|-------------------------|--|---|--|---|--|
| PARAMETER CODE | 71921 | 78465 | | | | | |
| UNITS | mg/kg | mg/kg | | | | | |
| FREQUENCY | 1/Month | 1/Month | | | | | |
| SAMPLING TYPE | Composite | Composite | | | | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | | | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | | | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | | | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | | | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | | | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | | | | | | | |
| Maximum | | | | | | | |
| Average | | | | | | | |
| Count | | | | | | | |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time | |
| Jeffrey Williamson | | | | | | Certification Version Date 2021-12-20 11:12 | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 601
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB:
ANALYST:
NO DISCHARGE INDICATOR: AL

| PARAMETER | Hydraulic Loading Rate (HLR) | Sludge Solids, Percent Total | Sludge Solids, Percent Volatile | COD, Soluble | Organic Loading Rate (OLR) | | |
|--|--|------------------------------|---------------------------------|---|----------------------------|---|--|
| PARAMETER CODE | 51028 | 70318 | 70322 | 80116 | 99981 | | |
| UNITS | GPD | % | % | mg/l | lb/cf/day | | |
| FREQUENCY | 1/Week | 1/Week | 1/Week | 1/Week | 1/Week | | |
| SAMPLING TYPE | Continuous | Composite | Composite | Composite | Continuous | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | | | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | | | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | | | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | | | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | | | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | | | | | | | |
| Maximum | | | | | | | |
| Average | | | | | | | |
| Count | | | | | | | |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time | |
| Jeffrey Williamson | | | | | | Certification Version Date 2021-12-20 11:12 | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 602
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Renergy
ANALYST: Jeremy Kanaird
NO DISCHARGE INDICATOR:

| PARAMETER | Temperature, In Sludge | pH | Alkalinity, Total (CaCO3) | Volatile Fatty Acids (VFA) | Detention Time, days | | |
|--|--|-----------|---------------------------|---|----------------------|---|--|
| PARAMETER CODE | 99978 | 00400 | 00410 | 99980 | 72026 | | |
| UNITS | F | S.U. | mg/l | mg/l | days | | |
| FREQUENCY | 1/Day | 3/Week | 3/Week | 3/Week | 1/Week | | |
| SAMPLING TYPE | Continuous | Composite | Composite | Composite | Continuous | | |
| 2021-11-01 | 99 | 7.607 | | | | | |
| 2021-11-02 | 99 | | 4946 | 555.8 | | | |
| 2021-11-03 | 99 | 7.451 | | | | | |
| 2021-11-04 | 99 | | 5746 | 273.6 | 30 | | |
| 2021-11-05 | 99 | 7.337 | 5688 | 1005.66 | | | |
| 2021-11-06 | 99 | | | | | | |
| 2021-11-07 | 99 | 7.453 | | | | | |
| 2021-11-08 | 99 | | 5645 | 399.76 | | | |
| 2021-11-09 | 99 | 7.338 | | | | | |
| 2021-11-10 | 99 | | 5082 | 432.96 | | | |
| 2021-11-11 | 99 | 7.354 | | | | | |
| 2021-11-12 | 99 | | 5152 | 520.94 | 30 | | |
| 2021-11-13 | 99 | 7.348 | | | | | |
| 2021-11-14 | 99 | | | | | | |
| 2021-11-15 | 98 | 7.364 | 6391 | 427.98 | | | |
| 2021-11-16 | 99 | | | | | | |
| 2021-11-17 | 94 | 7.462 | 6454 | 461.18 | | | |
| 2021-11-18 | 90 | | | | 30 | | |
| 2021-11-19 | 85 | 7.529 | 4816 | 285.22 | | | |
| 2021-11-20 | 84 | | | | | | |
| 2021-11-21 | 82 | 7.551 | | | | | |
| 2021-11-22 | 80 | | 5134 | 510.98 | | | |
| 2021-11-23 | 83 | 7.567 | 4030 | 167.36 | | | |
| 2021-11-24 | 86 | | | | | | |
| 2021-11-25 | 89 | 7.581 | | | 30 | | |
| 2021-11-26 | 92 | | 5043 | 510.98 | | | |
| 2021-11-27 | 93 | 7.557 | | | | | |
| 2021-11-28 | 95 | | | | | | |
| 2021-11-29 | 97 | 7.548 | 4210 | 494.38 | 30 | | |
| 2021-11-30 | 100 | | 5548 | 530.54 | | | |
| Minimum | | 7.337 | 4030.0 | 167.36 | 80.0 | | |
| Maximum | | 7.607 | 6454.0 | 1005.66 | 100.0 | | |
| Average | | | 5277.5 | 469.81 | 94.43333 | | |
| Count | | 15 | 14 | 14 | 30 | | |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time | |
| Jeffrey Williamson | | | | | | Certification Version Date 2021-12-20 11:12 | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 603
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB:
ANALYST:
NO DISCHARGE INDICATOR: AL

| PARAMETER | Solids, Total Volatile | Sludge Solids, Percent Volatile | COD, Soluble | Oil and Grease, Hexane Extr Method | Foreign Matter, percent | | |
|--|--|---------------------------------|--------------|---|-------------------------|---|--|
| PARAMETER CODE | 00157 | 70322 | 80116 | 00552 | 99979 | | |
| UNITS | % Removed | % | mg/l | mg/l | % | | |
| FREQUENCY | 1/Week | 1/Week | 1/Week | 1/Month | 1/Month | | |
| SAMPLING TYPE | Calculated | Composite | Composite | Composite | Composite | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | | | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | | | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | | | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | | | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | | | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | | | | | | | |
| Maximum | | | | | | | |
| Average | | | | | | | |
| Count | | | | | | | |
| Name of Responsible Official or Authorized Representative | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time | |
| Jeffrey Williamson | | | | | | Certification Version Date 2021-12-20 11:12 | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 604
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Renergy
ANALYST: Josh Ropke
NO DISCHARGE INDICATOR:

| PARAMETER | Freeboard | Maximum Operating Level (MOL), Sludge | | | | | |
|---|-----------|--|--|--|---|--|---|
| PARAMETER CODE | 82564 | 99977 | | | | | |
| UNITS | feet | mgals | | | | | |
| FREQUENCY | 1/Week | 1/Week | | | | | |
| SAMPLING TYPE | Total | Total | | | | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | 6.00000 | 5.48507 | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | 6.10000 | 5.48507 | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | 6.10000 | 5.48507 | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | 6.10000 | 5.48507 | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | 6.10000 | 5.48507 | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 6.0 | | | | | | |
| Maximum | 6.1 | | | | | | |
| Average | 6.08 | | | | | | |
| Count | 5 | | | | | | |
| Name of Responsible Official or Authorized Representative <div style="text-align: center; font-size: 1.2em;">Jeffrey Williamson</div> | | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time |
| | | | | | | | Certification Version Date 2021-12-20 11:12 |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 605
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Renergy
ANALYST: Josh Ropke
NO DISCHARGE INDICATOR:

| PARAMETER | Freeboard | Maximum Operating Level (MOL), Sludge | | | | | |
|---|-----------|---------------------------------------|---|--|--|---|--|
| PARAMETER CODE | 82564 | 99977 | | | | | |
| UNITS | feet | mgals | | | | | |
| FREQUENCY | 1/Week | 1/Week | | | | | |
| SAMPLING TYPE | Total | Total | | | | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | .40000 | .38769 | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | .45000 | .38769 | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | .45000 | .38769 | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | .47500 | .38769 | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | .47500 | .38769 | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 0.4 | | | | | | |
| Maximum | 0.475 | | | | | | |
| Average | 0.45 | | | | | | |
| Count | 5 | | | | | | |
| Name of Responsible Official or Authorized Representative <div style="text-align: center; font-size: 1.2em;">Jeffrey Williamson</div> | | | Signature of Responsible Official or Authorized Representative <div style="height: 100px;"></div> | | | Submission Date/Time | |
| | | | | | | Certification Version Date 2021-12-20 11:12 | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 606
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Renergy
ANALYST: Josh Ropke
NO DISCHARGE INDICATOR:

| PARAMETER | Freeboard | Maximum Operating Level (MOL), Sludge | | | | | |
|---|-----------|--|--|--|--|--|--|
| PARAMETER CODE | 82564 | 99977 | | | | | |
| UNITS | feet | mgals | | | | | |
| FREQUENCY | 1/Week | 1/Week | | | | | |
| SAMPLING TYPE | Total | Total | | | | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | .50000 | .33176 | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | .35000 | .33176 | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | .40000 | .33176 | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | .46000 | .33176 | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | .46000 | .33176 | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 0.35 | | | | | | |
| Maximum | 0.5 | | | | | | |
| Average | 0.434 | | | | | | |
| Count | 5 | | | | | | |
| Name of Responsible Official or Authorized Representative <div style="text-align: center; font-size: 1.2em;">Jeffrey Williamson</div> | | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative <div style="height: 60px;"></div> | | Submission Date/Time <div style="text-align: center;">2021-12-20 11:12</div> |
| | | | | | | | Certification Version Date 2021-12-20 11:12 |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 607
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Renergy
ANALYST: Josh Ropke
NO DISCHARGE INDICATOR:

| PARAMETER | Freeboard | Maximum Operating Level (MOL), Sludge | | | | | |
|---|-----------|--|--|--|---|--|---|
| PARAMETER CODE | 82564 | 99977 | | | | | |
| UNITS | feet | mgals | | | | | |
| FREQUENCY | 1/Week | 1/Week | | | | | |
| SAMPLING TYPE | Total | Total | | | | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | 2.56000 | 2.85714 | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | 2.56000 | 2.85714 | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | 2.56000 | 2.85714 | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | 2.56000 | 2.85714 | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | 2.56000 | 2.85714 | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 2.56 | | | | | | |
| Maximum | 2.56 | | | | | | |
| Average | 2.56 | | | | | | |
| Count | 5 | | | | | | |
| Name of Responsible Official or Authorized Representative <div style="text-align: center; font-size: 1.2em;">Jeffrey Williamson</div> | | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative | | Submission Date/Time |
| | | | | | | | Certification Version Date 2021-12-20 11:12 |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 608
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Renergy
ANALYST: Josh Ropke
NO DISCHARGE INDICATOR:

| PARAMETER | Freeboard | Maximum Operating Level (MOL), Sludge | | | | | |
|---|-----------|---------------------------------------|--|--|--|---|--|
| PARAMETER CODE | 82564 | 99977 | | | | | |
| UNITS | feet | mgals | | | | | |
| FREQUENCY | 1/Week | 1/Week | | | | | |
| SAMPLING TYPE | Total | Total | | | | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | 1.26000 | 1.36200 | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | 1.26000 | 1.36200 | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | 1.26000 | 1.36200 | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | 1.29000 | 1.36200 | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | 1.29000 | 1.36200 | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 1.26 | | | | | | |
| Maximum | 1.29 | | | | | | |
| Average | 1.272 | | | | | | |
| Count | 5 | | | | | | |
| Name of Responsible Official or Authorized Representative <div style="text-align: center; font-size: 1.2em;">Jeffrey Williamson</div> | | | Signature of Responsible Official or Authorized Representative <div style="height: 80px;"></div> | | | Submission Date/Time | |
| | | | | | | Certification Version Date 2021-12-20 11:12 | |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

SUBMISSION ID: 1107774
FACILITY: Emerald BioEnergy
LOCATION: 2881 Co Rd 156
 Cardington, OH 43315
COUNTY: Morrow
DISTRICT: CDO

STATUS: Original
PERMIT NUMBER: 4IN00204*BD
STATION CODE: 609
MONITORING PERIOD : 2021-11-01 To: 2021-11-30
REPORTING LAB: Renergy
ANALYST: Josh Ropke
NO DISCHARGE INDICATOR:

| PARAMETER | Freeboard | Maximum Operating Level (MOL), Sludge | | | | | |
|---|-----------|--|--|--|--|--|--|
| PARAMETER CODE | 82564 | 99977 | | | | | |
| UNITS | feet | mgals | | | | | |
| FREQUENCY | 1/Week | 1/Week | | | | | |
| SAMPLING TYPE | Total | Total | | | | | |
| 2021-11-01 | | | | | | | |
| 2021-11-02 | | | | | | | |
| 2021-11-03 | | | | | | | |
| 2021-11-04 | 19.60000 | 20.76969 | | | | | |
| 2021-11-05 | | | | | | | |
| 2021-11-06 | | | | | | | |
| 2021-11-07 | | | | | | | |
| 2021-11-08 | | | | | | | |
| 2021-11-09 | 18.80000 | 20.76969 | | | | | |
| 2021-11-10 | | | | | | | |
| 2021-11-11 | | | | | | | |
| 2021-11-12 | | | | | | | |
| 2021-11-13 | | | | | | | |
| 2021-11-14 | | | | | | | |
| 2021-11-15 | | | | | | | |
| 2021-11-16 | | | | | | | |
| 2021-11-17 | | | | | | | |
| 2021-11-18 | 18.80000 | 20.76969 | | | | | |
| 2021-11-19 | | | | | | | |
| 2021-11-20 | | | | | | | |
| 2021-11-21 | | | | | | | |
| 2021-11-22 | | | | | | | |
| 2021-11-23 | 18.80000 | 20.76969 | | | | | |
| 2021-11-24 | | | | | | | |
| 2021-11-25 | | | | | | | |
| 2021-11-26 | | | | | | | |
| 2021-11-27 | | | | | | | |
| 2021-11-28 | | | | | | | |
| 2021-11-29 | 18.80000 | 20.76969 | | | | | |
| 2021-11-30 | | | | | | | |
| Minimum | 18.8 | | | | | | |
| Maximum | 19.6 | | | | | | |
| Average | 18.96 | | | | | | |
| Count | 5 | | | | | | |
| Name of Responsible Official or Authorized Representative <div style="text-align: center; font-size: 1.2em;">Jeffrey Williamson</div> | | I certify under the penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. | | | Signature of Responsible Official or Authorized Representative <div style="border: 1px solid black; height: 40px; width: 100%;"></div> | | Submission Date/Time <div style="border: 1px solid black; height: 40px; width: 100%;"></div> |
| | | | | | | | Certification Version Date 2021-12-20 11:12 |

Ohio EPA - Daily Discharge Monitoring Report - Form 4500

FACILITY:
LOCATION:

Emerald BioEnergy
2881 Co Rd 156
Cardington, OH 43315

PERMIT NUMBER:
MONITORING PERIOD :

4IN00204*BD
2021-11-01 To: 2021-11-30

PARAMETER COMMENTS:

| Station Code | Parameter Name | Parameter Code | Date | Unit | Comment |
|--------------|----------------|----------------|------|------|---------|
|--------------|----------------|----------------|------|------|---------|